

Where do recent cosmological observations lead us? Emphasis on new theoretical routes

Sanjeev Kalita^{1,*}

¹ Department of Physics, Gauhati University, Assam

* Presenting author (sanjeev@gauhati.ac.in)

Cosmology seems to be in crossroads. New and independent observations in end-to-end scales have produced sufficient tension in the prevailing paradigm of cosmology. The tension has touched almost every aspect of cosmology – the Hubble parameter (H_0), deceleration parameter (q_0), perturbation amplitude (δ^2) and spatial curvature (Ω_k). Measurements of these parameters have given rise to values unexpected in the standard Lambda-CDM cosmology. In this talk the author will point out few theoretical routes which are unifying in nature and may be of potential importance in addressing the current crisis. The routes are centered on tests of gravitational physics and metrics in cosmological scale.